

PROJECT DESCRIPTION

GENERAL

This project involves the installation of Accessible Pedestrian Signal equipment to serve the north leg crossing at the intersection of MD 2 (Governor Ritchie Highway) at Arnold Road in Anne Arundel County, Maryland. This project also involves the modification of roadway geometrics in the northwest quadrant of the intersection. MD 2 is assumed to run in a North - South direction.

INTERSECTION OPERATIONS

The intersection operates in a fully actuated mode using 6 NEMA phases. The northbound and southbound left- turn movements operate with an exclusive left- turn phase.

SPECIAL NOTES

- All underground utilities shown on these plans are schematic only and may not be complete. The Contractor shall be responsible for notifying "Miss Utility" prior to construction so that all utilities may be located in the field. If the Contractor perceives that a conflict between the utilities and the traffic signal will occur, the Contractor shall notify the Project Engineer immediately so that the conflict may be resolved.
- The Contractor shall be responsible for terminating all signal cable to the appropriate terminals and properly label each cable so that SHA Forces can make the final connections. Contact the Traffic Signal Operations Supervisor, at least 72 hours prior to installation.
- Red Light cameras and associated equipment to be modified by others, see McMahon Associates, Inc. plans (TIMS# J-698).
- The contact persons for this project are as follows:

PROJECT CONTACTS:

District #5: Mr. Lee Starkloff
District Engineer
Phone: (410) 841-1001

Ms. Kimberly Tran
Assistant District Engineer - Traffic
Phone: (410) 841-1019

Mr. James Folden
Assistant District Engineer - Construction
Phone: (410) 841-1031

Mr. John Mays
Assistant District Engineer - Maintenance
Phone: (410) 841-1013

Mr. Mike Huber
Utility Engineer
Phone: (410) 841-1039

OOTS: Mr. Ed Rodenhizer
Traffic Signal Operations Manager
Phone: (410) 787-7650

EQUIPMENT LIST

A. Equipment to be supplied by State Highway Administration.

NONE

B. Equipment to be furnished and/or installed by the Contractor.

CATEGORY CODE NO.	DESCRIPTION	UNITS	QUANTITY
120500	Maintenance of Traffic	LS	1
130850	Mobilization	LS	1
585621	Test Pit Excavation	LS	2
203030	12" White Preformed Thermoplastic Pavement Parking Line	LF	120
801004	Concrete for Signal Foundation	CY	1
801104	Wood Sign Supports 4"x 4"	LF	85
801605	Sheet Aluminum Signs	SF	11
	1 Each R6-1 (36" x 12") Ground Mount (One-Way)		
	1 Each R4-7 (24" x 30") Ground Mount (Keep Right)		
	1 Each R7-1(R) (12" x 18") Ground Mount (No Parking)		
	1 Each R7-1(L) (12" x 18") Ground Mount (No Parking)		
802501	Stranded Bare Copper Ground Wire (No. 6 AWG)	LF	110
805125	2" Schedule 80 Rigid PVC Conduit - Trenched	LF	30
805135	3" Schedule 80 Rigid PVC Conduit - Trenched	LF	70
805011	1" Rigid Galvanized Electrical Conduit For Detector Sleeve	LF	15
811001	Furnish and Install Electrical handhole	EA	2
811002	Remove Electrical Handhole	EA	2
818000	5" Breakaway Pedestal Pole	EA	1
837001	Ground Rod - 3/4" x 10' Length	EA	2
861104	Electrical Cable - 2 Conductor (Aluminum Shielded)	LF	265
861105	Electrical Cable - 2 Conductor (No. 14 AWG)	LF	180
862101	Loop Wire Encased in Flexible Tubing (No. 14 AWG)	LF	425
862102	Saw Cut for Signal (Loop Detector)	LF	115
865001	APS Pushbutton and Sign	EA	2

C. Equipment to be removed and returned to State Highway Administration.

NONE

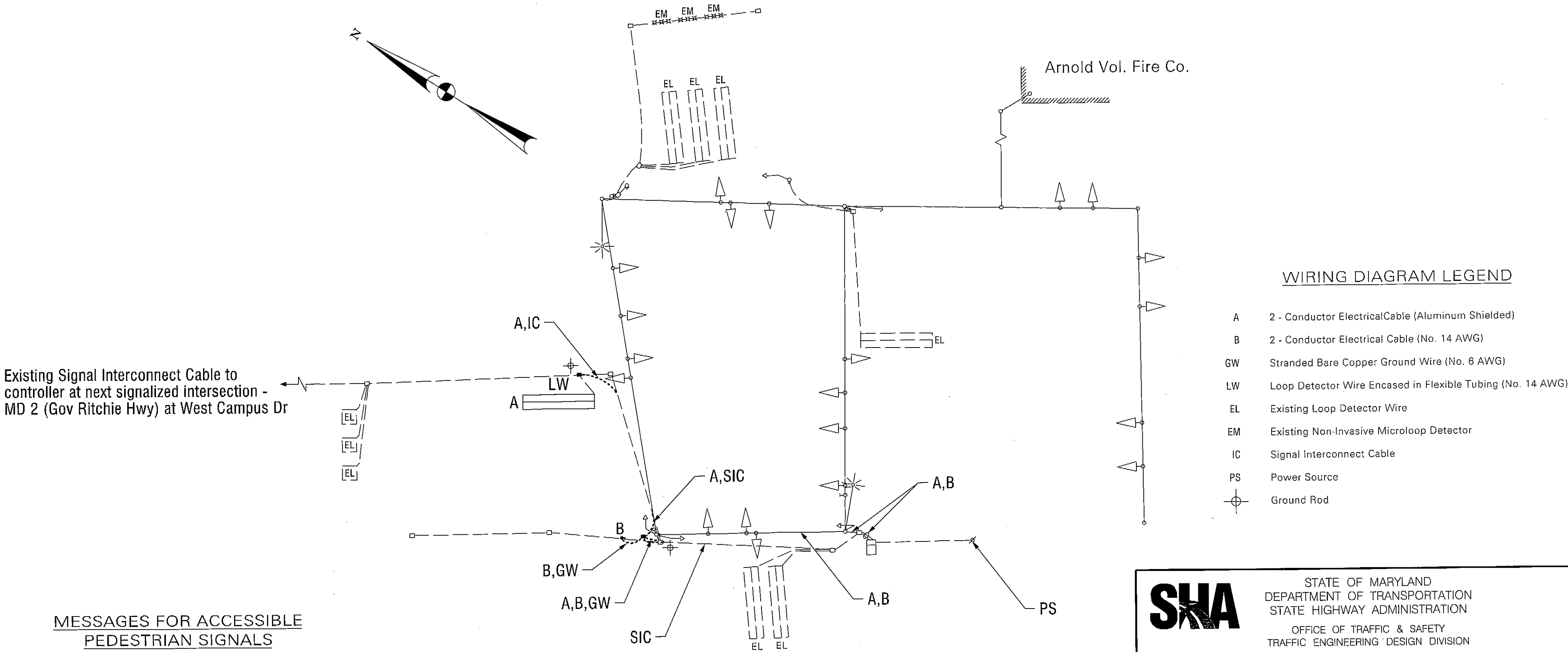
PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15,16	17,18	19,20	21	22	23	24	25	26
Phase 01 + 05	←G-	←G-	R	R	←G-	←G-	R	R	R	R	R	R	R	R	8' FLY	8' FLY	FL/R	DW	DW	DW	DW	DW	DW
Phase 01 + 05 Change	←G-	←G-	G	G	←R-	←R-	R	R	R	R	R	R	R	R	8' FLY	8' FLY	FL/R	DW	DW	DW	DW	DW	DW
Phase 01 + 06	←G-	←G-	G	G	←R-	←R-	R	R	R	R	R	R	R	R	8' FLY	8' FLY	FL/R	DW	DW	DW	DW	DW	DW
Phase 01 + 06 Change	←Y-	←Y-	G	G	←R-	←R-	R	R	R	R	R	R	R	R	8' FLY	8' FLY	FL/R	DW	DW	DW	DW	DW	DW
Phase 02 + 05	←R-	←R-	R	R	←G-	←G-	G	G	R	R	R	R	R	R	8' FLY	8' FLY	FL/R	DW	DW	DW	DW	DW	DW
Phase 02 + 05 Change	←R-	←R-	R	R	←Y-	←Y-	G	G	R	R	R	R	R	R	8' FLY	8' FLY	FL/R	DW	DW	DW	DW	DW	DW
Phase 02 + 06	←R-	←R-	G	G	←R-	←R-	G	G	R	R	R	R	R	R	8' FLY	8' FLY	FL/R	W	W	W	W	DW	DW
Phase 02 + 06 Ped Clear	←R-	←R-	G	G	←R-	←R-	G	G	R	R	R	R	R	R	8' FLY	8' FLY	FL/R	FLDW	FLDW	FLDW	FLDW	DW	DW
Phase 02 + 06 Change	←R-	←R-	Y	Y	←R-	←R-	Y	Y	R	R	R	R	R	R	8' FLY	8' FLY	FL/R	DW	DW	DW	DW	DW	DW
Phase 03	←R-	←R-	R	R	←R-	←R-	R	R	G/4G-	G/4G-	G	R	R	R	8' FLY	8' FLY	FL/R	DW	DW	DW	DW	DW	DW
Phase 03 Change	←R-	←R-	R	R	←R-	←R-	R	R	Y	Y	Y	R	R	R	8' FLY	8' FLY	FL/R	DW	DW	DW	DW	DW	DW
Phase 04	←R-	←R-	R	R	←R-	←R-	R	R	R	R	R	R	R	R	8' FLY	8' FLY	FL/R	DW	DW	DW	DW	DW	DW
Phase 04 Change	←R-	←R-	R	R	←R-	←R-	R	R	R	R	R	R	R	R	8' FLY	8' FLY	FL/R	DW	DW	DW	DW	DW	DW
Phase 04 Alt	←R-	←R-	R	R	←R-	←R-	R	R	R	R	R	R	R	R	8' FLY	8' FLY	FL/R	DW	DW	DW	DW	W	W
Phase 04 Alt Ped Clear	←R-	←R-	R	R	←R-	←R-	R	R	R	R	R	R	R	R	8' FLY	8' FLY	FL/R	DW	DW	DW	DW	FLDW	FLDW
Phase 04 Alt Change	←R-	←R-	R	R	←R-	←R-	R	R	R	R	R	R	R	R	8' FLY	8' FLY	FL/R	DW	DW	DW	DW	DW	DW
Flashing Operation	FL/R	FL/R	FL/Y	FL/Y	FL/R	FL/R	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	FL/Y	FL/Y	FL/R	DARK	DARK	DARK	DARK	DARK	DARK

Firehouse Pre-Emption Phase Chart

First Change Interval	←R-	←R-	G	G	←R-	←R-	Y	Y	R	R	R	R	R	R	8' FLY	8' FLY	FL/R	DW	DW	DW	DW	DW	DW
Second Change Interval	←R-	←R-	G	G	←R-	←R-	R	R	R	R	R	R	R	R	Y	Y	R	DW	DW	DW	DW	DW	DW
Pre-Emption Phase	←G-	←G-	G	G	←R-	←R-	R	R	R	R	R	R	R	R	R	R	8' FLY	DW	DW	DW	DW	DW	DW
Pre-Emption Phase Change	←Y-	←Y-	G	G	←R-	←R-	R	R	R	R	R	R	R	R	8' FLY	8' FLY	FL/R	DW	DW	DW	DW	DW	DW

WIRING DIAGRAM



MESSAGES FOR ACCESSIBLE PEDESTRIAN SIGNALS

LEG	WAIT MESSAGE	WALK MESSAGE
NORTH	"WAIT to cross RITCHIE at ARNOLD."	Rapid Tick

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION
MD 2 (Governor Ritchie Highway) at
Arnold Road
Arnold, Maryland

General Information Sheet

SCALE N/A DATE 5 May 09 CONTRACT NO.

DESIGNED BY NDG COUNTY Anne Arundel
DRAWN BY APV LOGMILE 0200225.15
CHECKED BY CT T.I.M.S. NO. J-634
F.A.P. NO. TOD NO.

DRAWING NO. TS-324-H

SHEET NO. 2 OF 2

WELLS + ASSOCIATES, INC
TRANSPORTATION, TRAFFIC AND PARKING CONSULTANTS
5 Wirt Street SW, Suite 300, Leesburg, Virginia 20175
Phone: 703/443-1442 Facsimile: 703/443-1225
1420 Spring Hill Road, Suite 600, McLean, Virginia 22102
Phone: 703/917-6620 Facsimile: 703/917-0739

PLOTTED:
FILE: L:\Projects\4001 - 4500\4410 - MD 2 & Arnold Road\Design\MD 2 & Arnold Gldn